Section 1. Registration Information

Source Identification

Facility Name	Costco Wholesale - Dallas
Parent Company #1 Name	Costco Wholesale
Parent Company #2 Name	

Submission and Acceptance

Submission Type	Re-submission
Subsequent RMP Submission Reason	5-year update (40 CFR 68 190(b)(1))
Description	
Receipt Date	21-Sep-2018
Postmark Date	21-Sep-2018
Next Due Date	21-Sep-2023
Completeness Check Date	25-Sep-2018
Complete RMP	Yes
De-Registration / Closed Reason	
De-Registration / Closed Reason Other Text	
De-Registered / Closed Date	
De-Registered / Closed Effective Date	
Certification Received	Yes

Facility Identification

EPA Facility Identifier	1000 0018 3972
Other EPA Systems Facility ID	
Facility Registry System ID	

Dun and Bradstreet Numbers (DUNS)

Facility DUNS	
Parent Company #1 DUNS	
Parent Company #2 DUNS	

Facility Location Address

Street 1	3730 Mountain Creek Parkway
Street 2	
City	Dallas
State	TEXAS
ZIP	75236
ZIP4	
County	DALLAS

9721093

Facility Latitude and Longitude

Latitude (decimal)	32 69275
Longitude (decimal)	-096 961333
Lat/Long Method	Interpolation - Digital map source (TIGER)
Lat/Long Description	Center of Facility
Horizontal Accuracy Measure	100
Horizontal Reference Datum Name	North American Datum of 1983
Source Map Scale Number	

Owner or Operator

Operator Name	Costco Wholesale
Operator Phone	(972) 587-1801

Mailing Address

Operator Street 1	3730 Mountain Creek Parkway
Operator Street 2	
Operator City	Dallas
Operator State	TEXAS
Operator ZIP	75236
Operator ZIP4	
Operator Foreign State or Province	
Operator Foreign ZIP	
Operator Foreign Country	

Name and title of person or position responsible for Part 68 (RMP) Implementation

RMP Name of Person	Max R Lupton
RMP Title of Person or Position	General Manager
RMP E-mail Address	D288MGR@costco com

Emergency Contact

Emergency Contact Name	Max R Lupton
Emergency Contact Title	General Manager
Emergency Contact Phone	(972) 587-1801
Emergency Contact 24-Hour Phone	(972) 922-5433
Emergency Contact Ext or PIN	
Emergency Contact E-mail Address	D288MGR@costco com

Other Points of Contact

Facility or Parent Company E-mail Address	
Facility Public Contact Phone	
Facility or Parent Company WWW Homepage Address	www costco com

Local Emergency Planning Committee

LEPC	Dallas County LEPC

Full Time Equivalent Employees

Number of Full Time Employees (FTE) on Site	150
FTE Claimed as CBI	

Covered By

OSHA PSM	Yes
EPCRA 302	Yes
CAA Title V	

Air Operating Permit ID

OSHA Ranking

OSHA Star or Merit Ranking

Last Safety Inspection

Last Safety Inspection (By an External Agency) Date	07-Jul-2018
Last Safety Inspection Performed By an External Agency	Dallas Fire Department

Predictive Filing

Did this RMP involve predictive filing?

Preparer Information

Preparer Name	SCS Tracer Environmental
Preparer Phone	(760) 744-9611
Preparer Street 1	5963 La Place Court
Preparer Street 2	Suite 207
Preparer City	Carlsbad
Preparer State	CALIFORNIA
Preparer ZIP	92008
Preparer ZIP4	
Preparer Foreign State	
Preparer Foreign Country	
Preparer Foreign ZIP	

Confidential Business Information (CBI)

CBI Claimed
Substantiation Provided
Unsanitized RMP Provided

Reportable Accidents

Reportable Accidents	See Section 6 Accident History below to determine if there were any accidents reported for this RMP

Process Chemicals

Process ID	1000088074
Description	
Process Chemical ID	1000110284
Program Level	Program Level 3 process
Chemical Name	Ammonia (anhydrous)
CAS Number	7664-41-7
Quantity (lbs)	26000
CBI Claimed	
Flammable/Toxic	Toxic

Process NAICS

Process ID	1000088074
Process NAICS ID	1000089295
Program Level	Program Level 3 process
NAICS Code	49312
NAICS Description	Refrigerated Warehousing and Storage

Section 2. Toxics: Worst Case

Toxic Worst ID 1000070044

Percent Weight	
Physical State	Gas liquified by pressure
Model Used	EPA's General Guidance on Risk Management Programs For Chemical Accident Prevention
Release Duration (mins)	10
Wind Speed (m/sec)	1 5
Atmospheric Stability Class	F
Topography	Rural

Passive Mitigation Considered

Dikes	
Enclosures	Yes
Berms	
Drains	
Sumps	
Other Type	

Section 3. Toxics: Alternative Release

Toxic Alter ID 1000074820

Percent Weight	
Physical State	Gas liquified by pressure
Model Used	EPA's General Guidance on Risk Management Programs For Chemical Accident Prevention
Wind Speed (m/sec)	3 0
Atmospheric Stability Class	D
Topography	Rural

Passive Mitigation Considered

Dikes	
Enclosures	
Berms	
Drains	
Sumps	
Other Type	

Active Mitigation Considered

Sprinkler System	
Deluge System	
Water Curtain	
Neutralization	
Excess Flow Valve	
Flares	
Scrubbers	
Emergency Shutdown	Yes
Other Type	

Section 4. Flammables: Worst Case

No records found

Section 5. Flammables: Alternative Release

No records found

Section 6. Accident History

No records found

Section 7. Program Level 3

Description

No description available

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID	1000092729
Chemical Name	Ammonia (anhydrous)
Flammable/Toxic	Toxic
CAS Number	7664-41-7

Process ID	1000088074
Description	
Prevention Program Level 3 ID	1000074365
NAICS Code	49312

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised)	09-May-2018

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update)	30-May-2018

The Technique Used

What If	Yes
Checklist	
What If/Checklist	
HAZOP	
Failure Mode and Effects Analysis	
Fault Tree Analysis	
Other Technique Used	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update)	31-Dec-2019

Major Hazards Identified

Toxic Release	Yes
Fire	Yes
Explosion	Yes
Runaway Reaction	
Polymerization	
Overpressurization	Yes
Corrosion	Yes
Overfilling	Yes
Contamination	Yes
Equipment Failure	Yes
Loss of Cooling, Heating, Electricity, Instrument Air	Yes

Earthquake	
Flooos (Flood Plain)	
Tornado	Yes
Hurricanes	
Other Major Hazard Identified	

Process Controls in Use

Vents	
Relief Valves	Yes
Check Valves	Yes
Scrubbers	
Flares	
Manual Shutoffs	Yes
Automatic Shutoffs	Yes
Interlocks	Yes
Alarms and Procedures	Yes
Keyed Bypass	
Emergency Air Supply	
Emergency Power	
Backup Pump	Yes
Grounding Equipment	
Inhibitor Addition	
Rupture Disks	
Excess Flow Device	
Quench System	
Purge System	
None	
Other Process Control in Use	

Mitigation Systems in Use

Sprinkler System	Yes
Dikes	
Fire Walls	
Blast Walls	
Deluge System	
Water Curtain	
Enclosure	Yes
Neutralization	
None	
Other Mitigation System in Use	

Monitoring/Detection Systems in Use

Process Area Detectors	Yes
Perimeter Monitors	
None	
Other Monitoring/Detection System in Use	

Changes Since Last PHA Update

Reduction in Chemical Inventory	
Increase in Chemical Inventory	
Change Process Parameters	

Installation of Process Controls	
Installation of Process Detection Systems	
Installation of Perimeter Monitoring Systems	
Installation of Mitigation Systems	Yes
None Recommended	
None	
Other Changes Since Last PHA or PHA Update	

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures)	01-Jun-2018

Training

Training Revision Date (The date of the most recent review or revision of training programs)	09-May-2018

The Type of Training Provided

Classroom	Yes
On the Job	Yes
Other Training	

The Type of Competency Testing Used

Written Tests	
Oral Tests	
Demonstration	Yes
Observation	Yes
Other Type of Competency Testing Used	

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures)	09-May-2018
Equipment Inspection Date (The date of the most recent equipment inspection or test)	01-May-2018
Equipment Tested (Equipment most recently inspected or tested)	Semi-Annual NH3 Sensor Calibration & Test

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures)	29-Dec-2017
Change Management Revision Date (The date of the most recent review or revision of management of change procedures)	09-May-2018

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review)	01-Jun-2018

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit)	09-May-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit)	01-Jun-2018

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any))	15-Apr-2017
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation)	10-May-2017

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans)	09-May-2018

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures)	09-May-2018

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures)	09-May-2018
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance)	31-May-2018

Confidential Business Information

CBI Claimed

Section 8. Program Level 2

No records found

Section 9. Emergency Response

Written Emergency Response (ER) Plan

Community Plan (Is facility included in written community emergency response plan?)	Yes
Facility Plan (Does facility have its own written emergency response plan?)	
Response Actions (Does ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?)	
Public Information (Does ER plan include procedures for informing the public and local agencies responding to accidental release?)	
Healthcare (Does facility's ER plan include information on emergency health care?)	

Emergency Response Review

Review Date (Date of most recent review or update of facility's ER plan)	

Emergency Response Training

Training Date (Date of most recent review or update of facility's employees)	

Local Agency

Agency Name (Name of local agency with which the facility ER plan or response activities are coordinated)	City of Dallas Fire Department
Agency Phone Number (Phone number of local agency with which the facility ER plan or response activities are coordinated)	(214) 670-4611

Subject to

OSHA Regulations at 29 CFR 1910 38	Yes
OSHA Regulations at 29 CFR 1910 120	
Clean Water Regulations at 40 CFR 112	
RCRA Regulations at CFR 264, 265, and 279 52	
OPA 90 Regulations at 40 CFR 112, 33 CFR 154, 49 CFR 194, or 30 CFR 254	
State EPCRA Rules or Laws	Yes
Other (Specify)	

Executive Summary

ACCIDENTAL RELEASE PREVENTION AND EMERGENCY RESPONSE POLICIES

Costco Wholesale has an Emergency Action Plan in effect The Emergency Action Plan is detailed in the Emergency Planning and Response section of Costco Wholesale's PSM/RMP document This Plan was designed to meet the following objectives

1) To save lives
2) To minimize and avoid injuries
3) To protect the environment
4) To minimize property damage

Costco Wholesale maintains a safety committee whose members are the designated emergency coordinators for the facility The Plan provides the response organization and notification procedures, evacuation routes, ammonia health hazards, and mitigation procedures which will be implemented to respond effectively to emergency situations that may arise at the facility This Plan will be reviewed and updated to ensure compliance with the PSM and RMP regulations, as well as to incorporate facility changes

Costco Wholesale has coordinated emergency response efforts with the local fire department, the City of Dallas Fire Department In the case of an ammonia-related emergency, it is the policy of Costco Wholesale to evacuate the employees and to allow the fire department/HazMat team to respond to the emergency The refrigeration contractor will be available for guidance and assistance

The majority of the equipment is located inside the machine room The system is a closed loop refrigeration system similar to a residential refrigerator There are no emissions or planned releases of ammonia

STATIONARY SOURCE AND REGULATED SUBSTANCE

The facility is located in a rural area at 3730 Mountain Creek Parkway, in Dallas, Texas, which is approximately 1 4 miles north of Interstate 20 and approximately 1 3 miles west of Highway 408 Costco Wholesale began operations at the facility in November 2003 The facility serves as a distribution point for chilled goods that are shipped to Costco Wholesale retail outlets The ammonia system was constructed in accordance with all applicable federal, state, and local regulations including the Uniform Fire and Mechanical Codes

The refrigeration cycle begins with the transfer of high pressure liquid ammonia from the thermosyphon receiver to the high pressure receiver The thermosyphon receiver is used as a reservoir of liquid ammonia which is supplied to the compressors for oil cooling The thermosyphon receiver gravity feeds excess liquid to the high pressure receiver which serves as the main liquid storage vessel in the system The high pressure receiver feeds high pressure liquid ammonia to the intermediate and high temperature recirculators located in the Machine Room As the ammonia enters the intermediate and high temperature recirculators, it is expanded through a hand expansion valve, reducing the pressure (and hence the temperature) in order to maintain a predetermined internal pressure The high temperature recirculator feeds a similar vessel that maintains a low pressure, the low temperature recirculator Each recirculator vessel supplies pumped liquid ammonia to a distinct set of evaporators The high temperature recirculator serves sixteen (16) high temperature evaporators The intermediate temperature recirculator serves six medium temperature evaporators, and the low temperature recirculator serves four low temperature evaporators Fans in each evaporator are used to draw air across and in between the coils which partially vaporizes the liquid ammonia as heat from the room is transferred to the ammonia within the coils

The resulting two-phased (liquid/vapor) ammonia suction from each set of evaporators is returned to each respective recirculator in which constant pressures (temperatures) are maintained based on the suction pressure of the corresponding compressors The liquid from the wet suction return is collected in the vessel and the vapor from each recirculator is then drawn to a combination of six compressors where the pressure and temperature of the gas is increased

All six compressors discharge to a common header The compressors pull vapor from the three recirculator vessels and discharge through a common header to condensers where it is condensed to a high pressure liquid and drained back to the thermosyphon receiver Hot gas is also used for defrost of the cooler area and cross dock evaporators An auto purger periodically purges the system of non-condensibles collected in the condensers The system is also equipped with a glycol heat exchanger that is used for underground heating (Note the Glycol Heat Exchanger has been pumped down and is currently not in service) Dual pressure

relief valve assemblies are installed on each vessel to relieve high pressure ammonia to a water diffusion tank through an emergency refrigerant control box in case of a high pressure event

Ammonia sensors are located in the machine room, at the warehouse areas, and on the pressure relief vent line that alert facility personnel They activate the ventilation system in the machine room and close all feed lines out of the machine room The ammonia detection system also has the capability to shut-off all electrical power to the machine room

The maximum intended inventory of ammonia is calculated to be 26,377 pounds, with a total current charge based on delivery receipts of 19,600 pounds

RISK MANAGEMENT PROGRAM AND CHEMICAL-SPECIFIC PREVENTION STEPS

The Costco Wholesale ammonia refrigeration system has many safety features Much of the safety of the system is inherent in the policies and procedures that govern the operation of the system For example, the facility operates in accordance with OSHA's Process Safety Management regulation and EPA's Risk Management Program (RMP) Refrigeration contractors, experts in the ammonia refrigeration industry, are contracted at the facility to regularly maintain the system and perform any repairs

Ammonia detectors are strategically located in the machine room and throughout the warehouse In case of ammonia detection, visible and audible alarms will activate at the facility

In the event of a power failure, ammonia operations would automatically shut-down (solenoid valves close, compressors shut-down, condenser fans and water pumps shut-down, evaporator fans shut-down, etc), thereby limiting the possibility of any ammonia releases

The system also incorporates a pressure relief system In the event of over-pressurization, vessels will vent to a common header which relieves to the water diffusion tank This mechanism prevents vessels from rupturing in case they become over pressurized

Ammonia refrigeration systems do not experience any chemical reactions or internal corrosion The only composition change that occurs within the systems are phase changes, as ammonia is cycled through various stages of liquid and vapor, similar to a household refrigerator The refrigeration system is a closed-loop system without any regular emissions or releases Any leaks are noted and repaired immediately by the refrigeration contractor

In addition to the 1997 Uniform Mechanical Code, the facility operates in accordance with the International Institute of Ammonia Refrigeration (IIAR) guidelines In particular, the IIAR Bulletin 110, "Startup, Inspection, and Maintenance of Ammonia Refrigeration Systems" is used as a general guide

FIVE YEAR ACCIDENT HISTORY

An investigation into the facility's accident history conducted at the time of the Process Hazard Analysis Revalidation conducted on May 30, 2018 revealed that there have been no ammonia releases over the past five years (May 2013 to May 2018) that exceeded the Federal Reportable Quantity of 100 pounds or the state requirement mandating immediate reporting of any release or threatened release of a hazardous material In addition, there have been no injuries resulting from an ammonia release, nor any releases or "near misses" that warranted an internal incident investigation

EMERGENCY RESPONSE PROGRAM

Costco Wholesale has an emergency action plan in effect at the facility The Emergency Action Plan (Plan) is detailed in the Emergency Planning and Response section of this PSM/RMP document Emergency response activities are coordinated with the City of Dallas Fire Department and the local fire houses In case of a major ammonia emergency, the facility will first call 9-1-1 to alert the local Police and Fire Departments Other responders will be called as needed, including the Department of Public Safety Emergency Management Services If a release exceeds the federal reporting quantity of 100 pounds for ammonia, the National Response Center and the Emergency Spill Report Center will be called All employees and contractors will evacuate based on a high ammonia leak alarm

Costco Wholesale maintains a safety committee whose members are the designated emergency coordinators for the facility The plan provides the response organization and notification procedures, evacuation routes, ammonia health hazards, and mitigation procedures which will be implemented to respond effectively to emergency situations that may arise at the facility The plan is reviewed and updated at least once per year This plan will be reviewed and updated to ensure compliance with the PSM and RMP regulations, as well as to incorporate any facility changes

Costco Wholesale will be responsible for evacuating and ensuring the safety of its employees and will coordinate emergency response efforts with the fire department on a periodic and ongoing basis

PLANNED CHANGES TO IMPROVE SAFETY

Costco Wholesale has worked to address safety issues as they arise in a continued effort to ensure a safe work environment A Compliance Audit was completed in May, 2018, and the Process Hazard Analysis, initially conducted in 2003, was revalidated on May 30, 2018 Recommendations that were generated during these studies include additional training, key maintenance-related tests/inspections, and reviewing emergency response issues The Costco Wholesale facility is planning to complete these recommendations over the next year as part of their continued effort to provide a safe work environment for their employees